



READ THIS FIRST SPARCserver 490 (SunOS 4.0.3)

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Read This First

SPARCserver 490 (SunOS 4.0.3)

1. Introduction

This RTF supplements the *SPARCserver 490 (SunOS 4.0.3) Release Manual* (Part Number 800-3473), which should be in the release box with this RTF and the following:

- SPARCserver 490 installation tape
- *SPARCserver 490 Software Installation Checklist* (Part Number 800-4713)
- SunOS 4.0.3 installation tape set (Sun-4) [if you ordered SunOS 4.0.3]
- *Read This First SunOS 4.0.3* (Part Number 800-3816) [if you ordered SunOS 4.0.3]

If you ordered SunOS 4.0.3, you will receive one box for each architecture you ordered (Sun-2, Sun-3, Sun-3x, Sun-4c). Each box will contain the tapes necessary to install SunOS 4.0.3 for a particular architecture.

NOTE: Installation of SPARCserver 490 software is NOT like that of most Sun software installations. Please be sure to read the installation instructions in Chapter 2 of the *SPARCserver 490 (SunOS 4.0.3) Release Manual*. And be sure to read the change page at the back of this RTF and to replace it in the *Release Manual* before starting the installation.

This RTF contains this Introduction plus the following:

- **Getting Help**

Who to call if you have a problem installing or using your SPARCserver 490.

- **Known Problems**

A list and description of software problems that have been identified but not fixed as of the publication date of this document.

- **Troubleshooting Hints**

Descriptions of common error conditions, with suggestions about what to do to overcome or prevent potential problems.

- **Change Page for the SPARCserver 490 Release Manual**

Page that should be substituted for page in the *SPARCserver 490 (SunOS 4.0.3) Release Manual* (Part Number 800-3473).

2. Getting Help

If you have problems installing or using SPARCserver 490 (SunOS 4.0.3), call Sun Microsystems® at 1-800-USA-4SUN (1-800-872-4786) or at the appropriate hotline number (see the list on the next page). You will be asked for the following information:

- Your name and electronic mail address (if any)
- Your company name, address, and phone number
- The model and serial number of your workstation or server
- The release number of your Sun software. You can display the contents of the "message-of-the-day" file (/etc/motd) to check the number (the release is "4.0.3 SPARCserver 490" in this example; the number after the pound sign and the date may vary on your system):

```
% cat /etc/motd
SunOS Release 4.0.3_SPARCserver_490 (GENERIC) #1: Tue Dec 5 10:00:46 PST 1989
```

- Any information that may help to diagnose the problem.

If you prefer, you can direct questions by electronic mail to sun!hotline. Be sure to include the same information as above.

Call your sales representative if you have questions about Sun support services or your shipment.

Sun Hotline Numbers

Sun customers throughout the world provide service hotlines for both software-support and hardware-support questions. The service hotlines are listed below. If your country is not shown in the table, please phone your local Sun sales office.

<i>Country/Service Region</i>	<i>Sun Affiliate</i>	<i>Hotline Number</i>
Australia	Sun Australia	(2) 436-4699
Canada	Sun Microsystems of Canada	
<i>Central Region:</i>	Toronto	(416) 477-6745
<i>Eastern Region:</i>	Montreal	(514) 738-4885
<i>Western Region:</i>	Calgary	(403) 262-6722
France	Sun Microsystems France SA	+33 1 40 94 80 80
Germany	Sun Microsystems GmbH	+49 89 4600 8321
Hong Kong	Sun Hong Kong	(5) 865-1688
Italy	Sun Microsystems Italia SpA	+39 39 605 6337
Japan	C.Itoh Data Systems	(3) 497-4746
	Nihon Sun	(3) 221-7021
Netherlands	Sun Microsystems Netherlands BV	+31 33 501 313
Spain	Sun Microsystems Iberica SA	+34 253-2003
Sweden	Sun Microsystems AB	+46 8 764 78 10
Switzerland	Sun Microsystems (Schweiz) AG	+41 1 861 1200
United Kingdom	Sun Microsystems Ltd.	+44 276 691 297
United States	Sun Microsystems, Inc.	
<i>All, including Puerto Rico</i>	Mountain View, CA	1 (800) USA-4-SUN (1-800-872-4786)
Countries Not Listed	Sun Microsystems, Inc.	
<i>All countries outside the USA, Europe, and Northern Africa</i>	Mountain View, CA	(415) 496-6119

3. Known Problems

The following problems have been identified, but not fixed, as of the publication date for this document. If possible, a method for getting around the problem (a "workaround") is described after the statement of the problem. Note the number at the beginning of the description of the problem; this is a bug ID number, which should be quoted if you talk to Sun Customer Service about the problem.

1029992: SunInstall will not install file systems on all drives.

SunInstall will not allow you to install software on 32 drives. For maximum efficiency, we recommend that you use SunInstall to install on no more than four drives (id000 to id003, for example) during installation.

Workaround: Install software on no more than four drives. Once the system is up and running, use the standard UNIX tools to format disks and create additional file systems.

1030242: You cannot add multiple architectures with setup_exec

If you want to add more architectures after you have completed the installation of SPARCserver 490 software, you can use `setup_exec` to add the architectures. Although the SunInstall Software Form seems to allow you to add more than one architecture at a time, you cannot do so.

Workaround: Run `setup_exec` once for each architecture to be added, as explained in the change page included at the end of this RTF.

1029757: System will not boot after a crash if savecore is run and any swap partition is greater than 300 megabytes

If any one swap partition is greater than 300 megabytes, your system will not boot after a system crash — if `savecore` is run.

Workaround: Do not designate any swap partition greater than 300 megabytes, if `savecore` is set to run in `/etc/rc.local`; you may have a number of swap partitions that add up to 300 megabytes or greater, as long as no one partition is greater than 300 megabytes.

1026000: Error message during SunInstall

If you make a mistake in completing the Media Information section of the SunInstall Software Form, you may see the following message at the bottom of the form:

mount a sun4 4.0.3 release tape

This error message will be displayed if you specify the wrong tape device, for instance, or if you select "local" or "remote" incorrectly. It will also be displayed if you specify incorrect Tapehost information during a remote installation.

Workaround: if you see this message, check your selections on the Software Form and correct them, if necessary.

1025728: TVI 925 console does not display prompt on Disk Form

After you have finished with the Disk Form for a disk, you will answer "y" to the question

```
O.K. to use this partition table (y/n)?
```

At that time, the following question should be displayed:

```
Are you finished with this form [y/n]?
```

This prompt is not displayed on a TVI 925 console, although the cursor moves to the right spot.

Workaround: answer "y" or "n" to the blank prompt, as appropriate.

1022968: Typo in small Sun-3x kernel config files

There is a typo in the `/sys/sun3x/conf/DL80` and `/sys/sun3x/conf/DL470` files that will cause them to config wrong, and not boot.

Workaround: If you use one of these templates, edit it before running config.

1. Fix the typo.

Add the word "type" to the line

```
config vmunix root on nfs
```

so that it reads:

```
config vmunix root on type nfs
```

2. Configure the new kernel.

See Section 7.8, "Configuring a Custom Kernel" in *Installing the SunOS 4.0.3* for instructions for configuring (building) a kernel after you have customized the kernel configuration file.

1021471: Multiple formats in CommandTool windows

Multiple `format` commands run in different CommandTool windows concurrently may not complete; the processes will die and the CommandTool windows will disappear.

Workaround: Use ShellTool windows for running `format`.

1024784: Formatting client disks

The `format` program will not work on Sun-2, Sun-3, or Sun-3x *diskless* clients of a SPARCserver 490 after you have finished the SPARCserver 490 installation. Nor will `format` work on *any dataless* clients of your SPARCserver 490 — including Sun-4 clients.

The workarounds for diskless and dataless clients are slightly different; both workarounds are described below. In both cases, `format` fails because it encounters unknown controller names in the file `format.dat`. The lines referencing the unknown controller names must be removed before `format` will work. Rather than modifying `format.dat` itself, the following workarounds copy `format.dat` to `/tmp`, modify this temporary copy, and use the `-x` argument to `format`, thus using the modified copy of `format.dat` when `format` is run.

Workaround for diskless clients: Before running `format` on any diskless, non-Sun-4 client which was booted from your SPARCserver 490, make a copy of `format.dat` and remove the lines mentioning controller ISP-80; do this on non-Sun-4s only.

1. Copy `format.dat` to `/tmp`:

```
# cp /etc/format.dat /tmp
```

2. Edit `/tmp/format.dat`, deleting references to IPI disks.

Search for "IPI," and delete the following lines (the second group of four lines are at the end of the file):

```
disk_type = "CDC IPI 9720"
    : ctlr = "ISP-80"
    : ncyl = 1631 : acyl = 1 : pcyl = 1633 : nhead = 15 : nsect = 82
    : rpm = 3600 : bpt = 49560 : skew = 0 : precomp = 0
. . .
. . .
partition = "CDC IPI 9720"
    : disk = "CDC IPI 9720" : ctlr = ISP-80
    : a = 0, 33210 : b = 27, 131610 : c = 0, 2006130 : g = 134, 196800
    : h = 294, 1644510
```

3. Run `format` with `-x` argument:

```
#format -x /tmp/format.dat
```

Workaround for dataless clients: Before running `format` on any dataless client of your SPARCserver 490, make a copy of `format.dat` and remove the lines mentioning controller PANTHER; do this for all dataless clients — including Sun-4 clients.

1. Copy `format.dat` to `/tmp`:

```
# cp /usr/etc/format.dat /tmp
```

2. Edit `/tmp/format.dat`, deleting references to IPI disks.

Search for "PANTHER," and delete the following lines (the second group of four lines are at the end of the file):


```

disk_type = "CDC"
: ctrlr = "PANTHER"
: ncyl = 1630 : acyl = 2 : pcyl = 1634 : nhead = 15 : nsect = 82
: rpm = 3600 : bpt = 49560 : skew = 0 : precomp = 0
. . .
partition = "CDC"
: disk = "CDC" : ctrlr = PANTHER
: a = 0, 30750 : b = 25, 92250 : c = 0, 2004900 : g = 100, 123000
: h = 200, 1758900

```

3. Run `format` with `-x` argument:

```
#format -x /tmp/format.dat
```

1027572: Booting in "ask" mode causes default swap device to be set incorrectly

When the system is booted in "ask" mode (with `-a` argument), it prompts you for the name of the swap device. If you press `Return` in response to this prompt, the kernel will set `id000b` as the swap device, regardless of what disk devices are actually present. Note also that the default swap size will be set to four gigabytes.

Workaround: Specify the name of the desired swap device in response to the prompt; do not simply press `Return`.

1023372: Misleading disk spin-up message during boot

During boot process, you may see the message

```
Waiting for disks to spin up, please start it or press any key to continue...
```

This message sometimes occurs because there is a wait during boot for the controller to initialize each drive, *and* for the booted drive to become READY.

Workaround: Do not press any keys, despite the message. Be sure the booted drive is READY; otherwise, do nothing. The boot process will continue.

1023380: Server reboot may necessitate killing and restarting client daemon

If the server of an NFS client using locks reboots, the server may not be able to communicate with the NFS client `statd` daemon. The server will display error messages, including the following:

```
rpc.statd: cannot talk to statd at clientname
```

Workaround: Kill `rpc.statd` daemon on each client and restart the daemon.

1008348: File systems with BLKSIZE=4K do not work

SunOS systems of release 4.0 or higher will not work with a blocksize less than the pagesize; BLKSIZE must be equal to or greater than the pagesize on the system on which the file system is mounted. For the SPARCserver 490, pagesize is 8K.

If you specify a blocksize less than 8K for a file system, you will get "panic: segmap_unlock" errors.

Workaround: Specify a blocksize of 8K or better for file systems.

1027569: Accessing swap partition via /dev may hang the system

If you access a swap partition via /dev, the system may hang, forcing you to halt (with **L1**-a or **Break**) and reboot. Running the df command on a swap partition, for instance, will hang the system.

1027378: Using disk with bad or missing label for swap causes panic

If the disk label is damaged or destroyed on a disk with swap space defined, the next boot to multi-user mode and usage of that swap space will cause a system panic and reboot:

```
segu_swapin: getpage failed
```

Workaround: Restore the disk label, using the backup feature of format.

1023505: Sundiag may hang if -C option is used

When running Sundiag with the -C option, the process running Sundiag sometimes seems to die, leaving 'defunct' processes; sundiag sharing the console with the kernel seems to cause this bug. This can happen after a few minutes or many hours. When it happens, the screen where the Sundiag window was 'dies.' The rest of the screen is fine. Killing the Sundiag process (kill -9) fixes the window system and removes the defunct processes.

Workaround: Do not use the "-C" option to sundiag.

1030234: With CG6 console, there is a screen glitch during sunupgrade

If you are using a CG6 as your console, there may be a horizontal row of 'garbage' displayed when you respond to the question "Is this a file-server? y/n." The glitch is harmless; sunupgrade will continue and will complete successfully.

Workaround: Ignore the glitch; it is harmless.

4. Troubleshooting Hints

Some common error conditions and solutions are described below. The bug ID follows the error, if it has been filed as a bug.

Writing drivers: using the I/O cache

For all I/O transactions the kernel tries to use the I/O cache; the buffer must be properly aligned — to a 32-byte boundary. Allocation of DVMA space using the `mb` routines automatically uses the I/O cache. The DVMA space must also be freed by using `mb` routines to complete the transfer; otherwise, the last 32 bytes of the transfer will remain in the I/O cache.

Mistake in `/etc/fstab` may prevent booting (1029338)

If you try to boot your system with an illegal entry like the following in `/etc/fstab`:

```
/id001a /id001a 4.2 rw,bg 0 0
```

instead of

```
/dev/id001a /id001a 4.2 rw,bg 0 0
```

the system may not boot.

Workaround: Boot the system in single-user mode, correct the entry in `/etc/fstab`, and reboot.

Primary swap must be bigger than memory

If you are going to be doing any dumps, your primary swap space must be at least as big as your system's memory size; make the primary swap twice as big as your memory size, to be sure — but not larger than 300 megabytes if `savecore` is enabled (see 1029757 above).

Run `sunupgrade` after adding architectures

Whenever you install any Sun-2, Sun-3, Sun-3x or Sun-4c architecture on an installed system, you have to finish by running `sunupgrade` with the SPARCserver 490 installation tape. See Sections 2.2 and 2.5 in the *SPARCserver 490 (SunOS 4.0.3) Release Manual*.

Install Sun-4c last

If you are having problems building kernels you probably broke the Sun-4c rule: install Sun-4c last. See "Other Architectures — Sun-4c Last" in Section 2.2 of the *SPARCserver 490 (SunOS 4.0.3) Release Manual* for details.

This rule applies for initial installations *and* for adding software for other architectures. Note that you must reinstall Sun-4c architecture if you add other architectures after the initial installation — even if you had already installed the Sun-4c architecture previously; see Section 2.5 of the *SPARCserver 490 Release Manual*. Remember that you always have to finish by running `sunupgrade` with the SPARCserver 490 installation tape.

SunInstall does not recognize tape (1026090)

If you seemed to successfully create an extract list on the Software Form, but SunInstall does not recognize the tape once the installation begins, one of the files in the miniroot may have been trashed. To overcome this problem, reload the miniroot and run SunInstall again.

Note also that you should only mount one tape during SunInstall; if you mount tapes in two or more drives, SunInstall may not find the drive with the installation tape mounted.

Finally, if you have a 1/4-inch tape drive and a 1/2-inch front-load tape drive on the same bus, and the 1/2-inch drive's address is set to something other than 5, you may get "Device not found" message when you try to use the 1/4-inch drive.

Disk formatting may take longer time than indicated

When you run `format`, you will see a message that formatting takes about 15 minutes. This is true, but the verification process that follows formatting of disks takes about two hours. Remember to use ShellTool windows when formatting disks concurrently — not CommandTool windows.

If you have a second Ethernet (1025718)

See "If You Have a Second Ethernet" in Section 2.2 of the *SPARCserver 490 (SunOS 4.0.3) Release Manual* for instructions for configuring the second Ethernet (`ie2`) as a network gateway.

Sizing of partitions for heterogeneous installations (1023427)

See "Freehog Partition for Heterogeneous Installations" in Section 2.2 of the *SPARCserver 490 (SunOS 4.0.3) Release Manual* for a discussion of the need to increase the size of the freehog partition when doing a heterogeneous installation.

Do not change root and swap partitions on Disk Form

As noted in Section 2.2 of the *SPARCserver 490 (SunOS 4.0.3) Release Manual*, you cannot change the size of the root partition, nor can you reduce the size of the swap partition from the Disk Form during SunInstall. Such changes can only be made with the `format` program in `unix`.

RPC error message on SPARCserver 490 console (1023380)

If the following message is displayed regularly on the SPARCserver 490 console:

```
>clnttcp_create: RPC: Remote system error - Connection refused
>rpc.statd: cannot talk to statd at clientname
```

Go to *clientname*, kill the `rpc.statd` daemon, and restart it.

Network error messages during system reboot

If you see the following messages during a system reboot:

```
nonlocal attempt to unset (program 100003 version 1) from host <internet
#>
port 700

cannot register service: RPC: Remote system error
rpc.statd: unable to register (SM_PROG, SM_VERS, udp)
unable to register (NLM_PROG, NLM_VERS, tcp)
```

Check `/etc/netmasks` and modify as described in Section 2.3 of the *SPARCserver 490 (SunOS 4.0.3) Release Manual*.

System may hang with too many concurrent reads of large files (1026142)

If many processes (e.g., greater than 50) are simultaneously reading or writing large (e.g., 10 megabyte) files, the system may hang, forcing a halt and reboot.

Workaround: Increase the value of `maxusers` in the kernel configuration file, rebuild the kernel, and reboot. See Chapter 3 in *SPARCserver 490 (SunOS 4.0.3) Release Manual* for information about kernel configuration.

5. Change Page for the SPARCserver 490 Release Manual

Attached is one page (29 on the front, 30 on the back) which should be substituted in the *SPARCserver 490 (SunOS 4.0.3) Release Manual* (Part Number 800-3473). Please remove page 29-30 in the *Release Manual* and replace it with the attached page.

The changes are as follows:

- On page 29, near the middle of the page, the line that reads

1. Run `setup_exec`

has been changed to read

1. Run `setup_exec` — once for each architecture to be added.

- On page 29, near the middle of the page, the line that reads

4. Run `sunupgrade` (upgrade server only).

has been changed to read

4. Run `sunupgrade` (upgrade all).

- On page 29, the paragraph beneath the gray box has been changed to reflect the fact that you have to run `setup_exec` once for each architecture to be added.
- On page 30, near the bottom, item number 4 has been changed so that it tells you to select number 1, "Upgrade all" instead of number 2.